

Claims

1. Pump-dispenser bottle device comprising a reservoir containing a hair composition, as well as means for distributing the composition, characterized in that:

(i) the composition comprises, in a cosmetically acceptable medium, at least one polycondensate (A) comprising at least one polyurethane and/or polyurea block and at least one film-forming polymer (B); and
(ii) the polymers (A) and (B) and the device being chosen so as to obtain, on leaving the device, droplets of composition with an average diameter of less than or equal to 80 μm .

2. Device according to Claim 1, characterized in that the average diameter of the droplets is less than or equal to 75 μm .

3. Device according to either of the preceding claims, characterized in that the composition contains an organic solvent.

4. Device according to any one of the preceding claims, characterized in that the polycondensate is formed by an arrangement of blocks, this arrangement being obtained in particular from:

- (1) at least one compound which contains two or more than two active hydrogen atoms per molecule;
- (2) at least one diol or a mixture of diols containing acid radicals or their salts;

(3) at least one di- or polyisocyanate.

5. Device according to Claim 4, characterized in that the compounds (1) are chosen from the group comprising diols, diamines, polyesterols and polyetherols, or a mixture thereof.

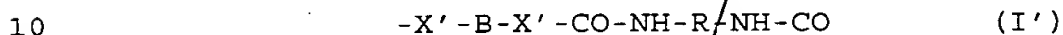
6. Device according to Claim 4, characterized in that compound (2) is a 2,2-hydroxymethylcarboxylic acid.

7. Device according to Claim 4, characterized in that compound (3) is chosen from the group comprising hexamethylene diisocyanate, isophorone diisocyanate, toluylene diisocyanate, diphenylmethane 4,4'-diisocyanate, dicyclohexylmethane 4,4'-diisocyanate, methylenebis(p-phenyl) diisocyanate, methylenebis(4-cyclohexyl isocyanate), isophorone diisocyanate, toluene diisocyanate, 1,5-naphthalene diisocyanate, 4,4'-diphenylmethane diisocyanate, 2,2'-dimethyl-4,4'-diphenylmethane diisocyanate, 1,3-phenylene diisocyanate, 1,4-phenylene diisocyanate, mixtures of 2,4- and 2,6-toluene diisocyanate, 2,2'-dichloro-4,4'-diisocyanatodiphenylmethane, 2,4-dibromo-1,5-diisocyanatonaphthalene, butane 1,4-diisocyanate, 1,6-hexane diisocyanate and 1,4-cyclohexane diisocyanate.

8. Device according to Claim 4, characterized in that the polycondensate is formed from at least one additional compound having a silicone skeleton, chosen from the group comprising

polysiloxanes, polyalkylsiloxanes or polyarylsiloxanes, in particular polyethylsiloxanes, polymethylsiloxanes and polyphenylsiloxanes, optionally containing hydrocarbon-based chains grafted onto the silicon atoms.

9. Device according to any one of Claims 1 to 3, characterized in that the polyurethane and/or polyurea blocks of the polymer have a repeating base unit corresponding to the general formula I' below:



in which:

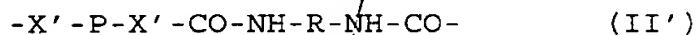
- X' represents O and/or NH,
- B is a hydrocarbon-based radical, this radical being substituted or unsubstituted, and
- R is a divalent radical chosen from alkylene radicals of aromatic type, C₁ to C₂₀ aliphatic radicals or C₁ to C₂₀ cycloaliphatic radicals, these radicals being substituted or unsubstituted.

10. Device according to Claim 9, characterized in that B is a divalent C₁ to C₃₀ hydrocarbon-based radical.

11. Device according to Claim 9 or 10, characterized in that the radical R is chosen from the group comprising hexamethylene, 4,4'-biphenylene-methane, 2,4- and/or 2,6-tolyene, 1,5-naphthylene, p-phenylene, methylene-4,4-bis-cyclohexyl radicals and the divalent radical derived from isophorone.

12. Device according to any one of Claims 1

to 3, characterized in that the polycondensate has a repeating base unit corresponding to formula (II'):



in which:

- 5 - P is a polysiloxane segment,
- X' represents O and/or NH, and
- R is a divalent radical chosen from alkylene radicals of aromatic type, C₁ to C₂₀ aliphatic radicals and C₁ to C₂₀ cycloaliphatic radicals,
- 10 these radicals being substituted or unsubstituted.

13. Device according to any one of the preceding claims, characterized in that the composition comprises, as a relative proportion by weight, between 0.1 and 30% of the polycondensate (A), preferably
15 between 0.5 and 20% and even more advantageously between 1 and 10%.

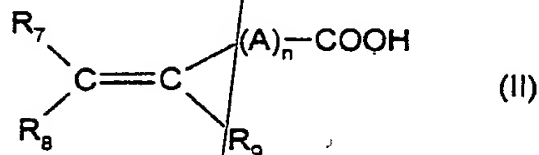
14. Device according to any one of the preceding claims, characterized in that the composition comprises, as a relative proportion by weight, between
20 0.1 and 30% of the film-forming polymer (B), preferably between 0.5 and 20% and even more advantageously between 1 and 10%.

15. Device according to any one of the preceding claims, characterized in that the composition
25 comprises an additional organic solvent present in a relative weight concentration of between 0.5 and 80%.

16. Device according to any one of the preceding claims, characterized in that the film-

forming polymer (B) is an anionic polymer chosen from:
 - polymers comprising carboxylic units derived from unsaturated mono- or dicarboxylic acid monomers of formula:

5



in which n is an integer from 0 to 10, A denotes a methylene group, optionally connected to the carbon atom of the unsaturated group, or to the neighbouring methylene group when n is greater than 1, via a hetero atom such as oxygen or sulphur, R₇ denotes a hydrogen atom or a phenyl or benzyl group, R₈ denotes a hydrogen atom or a lower alkyl or carboxyl group, R₉ denotes a hydrogen atom, a lower alkyl group or a -CH₂-COOH, phenyl or benzyl group;

- polymers comprising units derived from sulphonic acid, such as vinylsulphonic, styrenesulphonic or acrylamidoalkylsulphonic units.

20 17. Device according to the preceding claim, characterized in that the anionic film-forming polymer is chosen from:

- acrylic acid copolymers, such as acrylic acid/ethyl acrylate/N-tert-butylacrylamide terpolymer;
 25 - copolymers derived from crotonic acid, such as vinyl

acetate/vinyl tert-butylbenzoate/crotonic acid
terpolymers and crotonic acid/vinyl acetate/vinyl
neododecanoate terpolymers;

- polymers derived from maleic, fumaric or itaconic
5 acids or anhydrides with vinyl esters, vinyl ethers,
vinyl halides, phenylvinyl derivatives and acrylic acid
and esters thereof, such as methyl vinyl
ether/monoesterified maleic anhydride copolymers;
- copolymers of methacrylic acid and methyl
10 methacrylate;
- the copolymer of methacrylic acid and ethyl acrylate;
- vinyl acetate/crotonic acid copolymer;
- vinyl acetate/crotonic acid/polyethylene glycol
terpolymer.

15 18. Device according to any one of Claims 1
to 15, characterized in that the film-forming polymer
(B) is an amphoteric polymer chosen from polymers
comprising units derived from:

- a) at least one monomer chosen from
20 acrylamides and methacrylamides substituted on the
nitrogen with an alkyl radical,
- b) at least one acidic comonomer containing
one or more reactive carboxylic groups, and
- c) at least one basic comonomer such as
25 esters containing primary, secondary, tertiary and
quaternary amine substituents of acrylic and
methacrylic acids and the product of quaternization of
dimethylaminoethyl methacrylate with dimethyl or

diethyl sulphate.

19. Device according to any one of Claims 1 to 15, characterized in that the film-forming polymer (B) is a nonionic polymer chosen from:

- 5 - polyalkyloxazolines;
- vinyl acetate homopolymers;
- copolymers of vinyl acetate and acrylic ester;
- copolymers of vinyl acetate and ethylene;
- copolymers of vinyl acetate and maleic ester;
- 10 - copolymers of polyethylene and maleic anhydride;
- alkyl acrylate homopolymers and alkyl methacrylate homopolymers;
- acrylic ester copolymers such as, for example, copolymers of alkyl acrylates and alkyl methacrylates;
- 15 - copolymers of acrylonitrile and a nonionic monomer chosen, for example, from butadiene and alkyl (meth)acrylates; and
- copolymers of alkyl acrylate and urethane.

20. Device according to any one of Claims 1 to 15, characterized in that the film-forming polymer (B) is a cationic polymer chosen from:

- the copolymer of acrylamide and dimethylaminoethyl methacrylate quaternized with dimethyl sulphate,
- copolymers of acrylamide and methacryloyloxy-
- 25 ethyltrimethylammonium chloride,
- the copolymer of acrylamide and methacryloyloxyethyltrimethylammonium methosulphate,
- quaternized or non-quaternized

vinylpyrrolidone/dialkylaminoalkyl acrylate or methacrylate copolymers,

- dimethylaminoethyl methacrylate/vinyl caprolactam/vinylpyrrolidone terpolymers, and
- 5 - vinylpyrrolidone/quaternized dimethylamino-propylmethacrylamide copolymer.

21. Device according to any one of Claims 1 to 15, characterized in that the film-forming polymer (B) is a grafted silicone polymer comprising a
10 polysiloxane portion and a portion consisting of a non-silicone organic chain.

22. Device according to any one of Claims 1 to 15, characterized in that the film-forming polymer (B) is a functionalized or non-functionalized, silicone
15 or non-silicone polyurethane which is different from (A).

23. Device according to any one of the preceding claims, characterized in that it delivers an amount of composition of between 120 and 170 μ l when
20 the user presses once on the push-button, and preferably an amount of composition of between 140 and 160 μ l.

24. Device according to any one of the preceding claims, characterized in that the composition
25 also contains conventional cosmetic additives chosen from the group comprising fatty substances, thickeners, softeners, antifoaming agents, moisturizers, antiperspirants, basifying agents, dyes, pigments,

fragrances, preserving agents, surfactants, volatile or non-volatile silicones, in particular anionic silicones, polyols, proteins and vitamins.

25. Hair process for shaping or holding the
5 hairstyle, characterized in that it comprises the use of a device in accordance with any one of the preceding claims.

26. Use of a device according to any one of
Claims 1 to 24 for the manufacture of a hair styling
10 product.

add A1
add P1

add C5
add E6